

REMARKS:

Claim Rejections - 35 USC § 103

In the Office Action dated June 16, 2003, claims 1, 2, and 5-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughan et al. in view of Doran.

This rejection is respectfully traversed for the following reasons:

First of all, the rejection of claim 1 is insufficient because neither Vaughan et al. nor Doran teach the required limitation of “said first interlocking member and said second interlocking member are disposed to oppose parallel movement of one said insulating concrete form with respect to a second said insulating concrete form disposed in stacked, interlocked relationship therewith”. There is no disclosure in either of the references relied upon for the rejection, of structure which would prohibit parallel (which could also be described as horizontal, or longitudinal) movement of one form with respect to another form stacked thereupon.

Additionally, in the prior art of insulating concrete form systems, there are 3 basic types of systems: 1) Flat Wall systems, which is, just as it says, perfectly flat on both sides; 2) Waffle Grid systems, which have a number of rounded columns which are crossed horizontally by cross beams and interconnected by thinner webs of concrete, creating a waffle effect (such as the systems in the Vaughan et al., Browning, Jr., Martin et al., and Cormier references cited by the Examiner); and 3) Screen Grid systems, which have portions of the opposing insulating forms which extend into direct contact with each other, thereby creating actual holes in the concrete wall, the holes being filled by the form itself (such as the system used by the Doran reference cited by the

Examiner).

The present invention is a new type of wall system that does not fall into any of the 3 known insulating concrete form systems currently in existence. The inventive form system is a Modified Flat Wall System which has portions of flat wall which are augmented by interconnecting columns and beams connected by thin webs of concrete. It differs from the Flat Wall system because of the columns and beams, and it differs from the Waffle Grid system because of the complete lack of any rounded structure whatsoever, either in the columns or in the beams. As is discussed on page 15 of the specification, the modified flat wall system maximizes the strength of the wall for the amount of concrete used, as compared to a design with rounded columns. The strength of a wall is rated by the area of the largest square that can fit within a cross-section of the column. As can be clearly seen in Attachment A, square columns accommodate a square equal to the full cross-sectional dimensions of the column to be placed in the cross-section. In the rounded columns of a waffle grid system, only a much smaller square can be accommodated fully within the cross-section of the column, thus yielding a weaker wall in comparison to a modified flat wall using the same amount of concrete

Further, while the Examiner has asserted that it would have been obvious to modify the Waffle Grid system of Vaughan et al. by taking the principally flat surface and square columns of the Screen Grid system of Doran and incorporating them therein, Applicant strongly disagrees. First of all, these are different types of wall systems, and it would not have been obvious to one of ordinary skill in the art to take selective features from one type of wall system (Screen Grid) and arbitrarily use them to modify the standard features of another type of wall system (Waffle Grid). Second of all, the Examiner's motivation for combining these dissimilar wall systems, "to add

strength to the wall system while reducing concrete usage” are in fact taken from Applicant’s own specification, and constitutes impermissible hindsight. Careful reading of both the Vaughan et al. and Doran references shows that there is no teaching in either to modify the shape of the column to add strength while reducing concrete usage. The only place where such a teaching can be — found is in Applicant’s own specification. It is more likely that the reason the male extensions of Doran were shaped to create columns and beams that are parallelepipeds joined at their intersections was because rectangular extensions were an easy shape to fabricate in such a way that they easily and reliably interlock with the corresponding extensions of the opposing panels, thus creating the “holes” in the concrete of the finished wall. This ability to easily interlock is entirely irrelevant to the Vaughan et al. reference (or the present invention, for that matter) since there is no contact, let alone interlocking, between the male extensions of either Vaughan et al. or the present invention.

In view of the lack of teaching in the art to combine the features of the Screen Grid wall system of Doran with the Waffle Grid wall system of Vaughan et al, the reliance of the Examiner on hindsight alone for the motivation to combine, and the failure of either of the references relied upon for the rejection to teach one of the the claimed limitation, it is respectfully requested that the rejection of these claims as obvious over Vaughan et al. in view of Doran be reconsidered and withdrawn.

It is noted that claims 5 and 6 have been amended to bring out the feature disclosed on pages 20-21 of the specification that the tie bracket adjacent to the proximal end of the panel is located 6 inches from the panel proximal end, and that all tie brackets are located at intervals of one foot. This feature is not an arbitrary design choice. It provides the very real benefit of —

providing a consistent spacing of the tie brackets, both within a single wall panel and from one wall panel to an adjacent wall panel. Because the tie brackets are embedded, upon final construction of the wall, they are not visible, and this choice of spacing enables a builder to know with confidence exactly where the tie brackets are located within each wall panel and provides for consistent vertical alignment of the tie brackets between vertically stacked panels. This is important as when the wall is completed the flat plates of the tie brackets can be used as studs for attachment of surface sheathing to the wall. These arguments hold true for claims 7 and 8, as well.

Claims 4, 13, and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughan et al. in view of Doran in view of Horobin.

This rejection is respectfully traversed for the same reasons given above regarding the rejection of claims 1,2, and 5-10. The rejection is further objected to because Horobin does not, in fact, teach the feature of claim 4 that the Examiner asserts it does. Both claims 4 and 13 require that the upper surface of the first and second insulating panels have a series of male projections formed along the **interior** surfaces of the first male interlocking member. Horobin discloses the formation of a series of male projections along the exterior of the first male interlocking member. This difference is significant because male projections located along the exterior of the first male interlocking member, and thus on the exterior of the panels of the form, are prone to damage and to clogging with debris. There is no teaching in Horobin to modify his series of male projections by locating them on the interior surface of the first male interlocking member rather than on the exterior surface, as shown.

Claims 11-12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughan et al. in view of Doran in further view of Moore, Jr. These claims depend from claim 1, so this rejection is traversed for the same reasons given above regarding the rejection of claim 1.

Claims 15 and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughan et al. in view of Doran in view of Horobin in still further view of Moore, Jr. These claims depend from claim 13, so this rejection is traversed for the same reasons given above regarding the rejection of claim 13.

Newly added claims

New claim 17 has been added. Claim 17 is similar to claim 1, combined with the features of claim 4 and the additional limitation that the male projections are spaced from one another at intervals which are much longer than the length of the male projections themselves, thus providing a limited number of male projections spaced at relatively great distance from one another along the length of the upper surface of the panel. This contrasts with the male projections of Horobin, which comprise a large number of closely spaced male projections. The large number, small size, and close proximity of the alignment protrusions and notches of Horobin cause more friction during the step of installing one panel system upon another, therefore making tight connections more difficult, and making it more difficult to be sure that the tie brackets of vertically stacked panels are aligned with one another. By having fewer protrusions and notches


that are spaced from one another at wider intervals, as claimed, it would be easier to assemble vertically stacked panels together, and to easily align them vertically, since there would not be another notch in the immediate vicinity of the correct notch in which the protrusion might be erroneously placed.

CONCLUSION

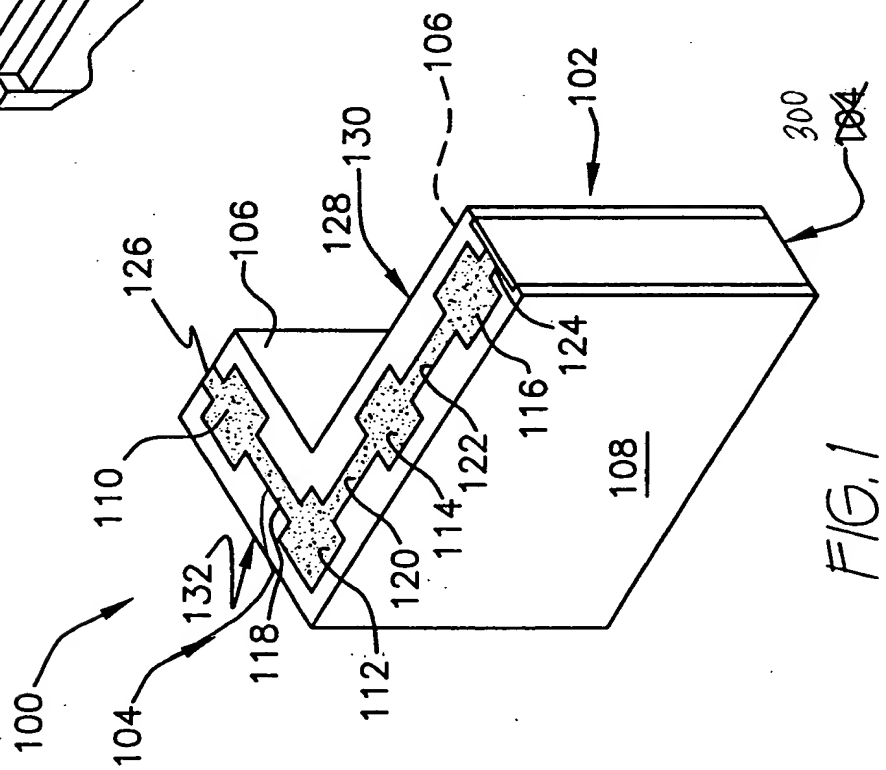
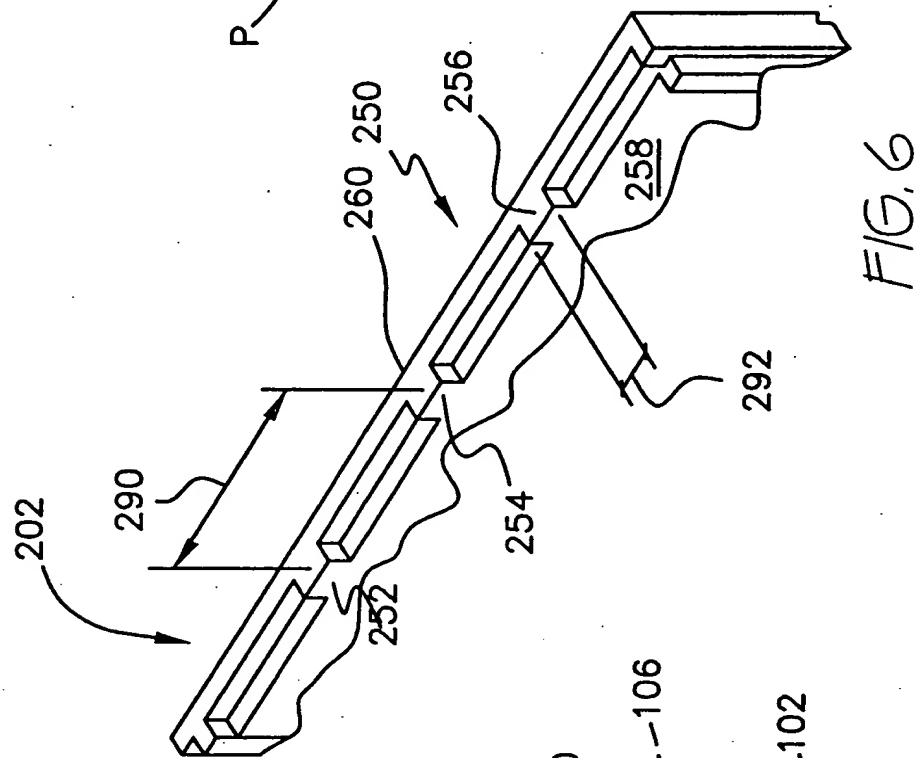
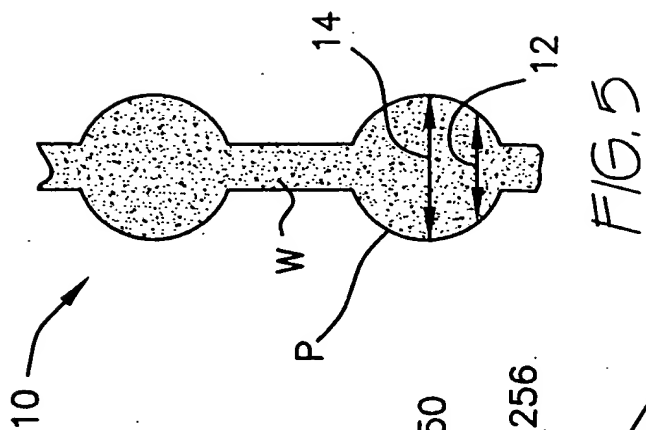
For the foregoing reasons, all the claims now pending in the present application are believed to be allowable, and the present application is believed to be in condition for allowance. Accordingly, favorable reconsideration of the application in light of the amendment and remarks is respectfully requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned representative at the number listed below.

Respectfully submitted,

A handwritten signature in cursive script that reads "Randy Shay".

Randy Shay
Agent for Applicant
Registration No. 44,055
Siemens Patent Services, L.C.
P.O. Box 2607
Fairfax, VA 22031
(540) 548-4404



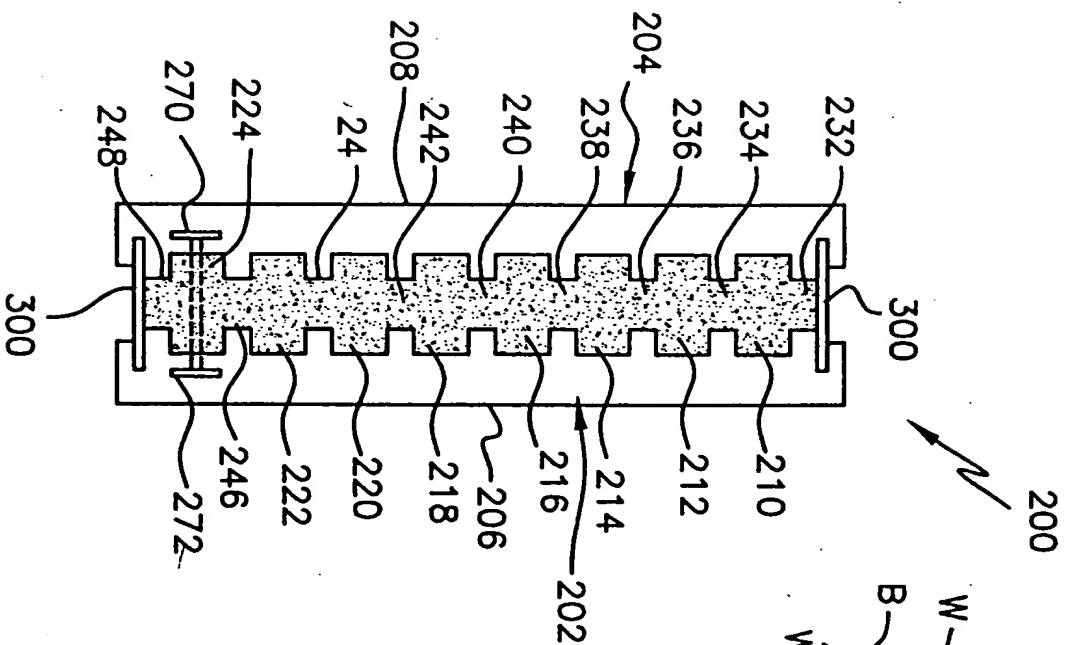


FIG. 2

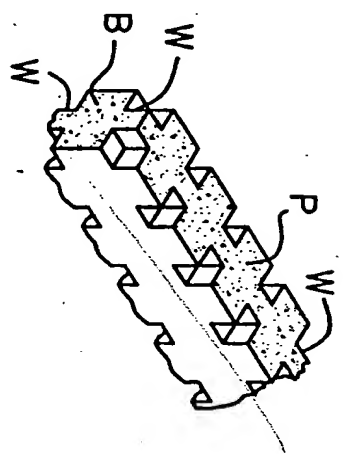


FIG. 4

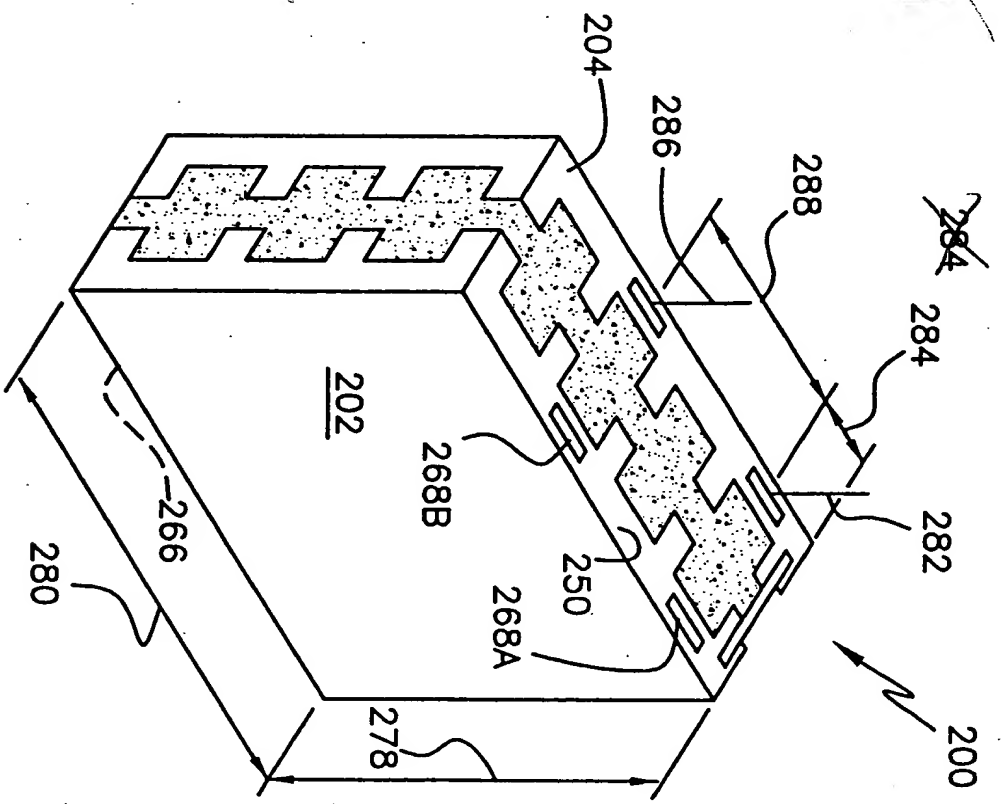


FIG. 3

O I P E J C I 3 9
 DEC 1 5 2003
 PATENT & TRADEMARK OFFICE

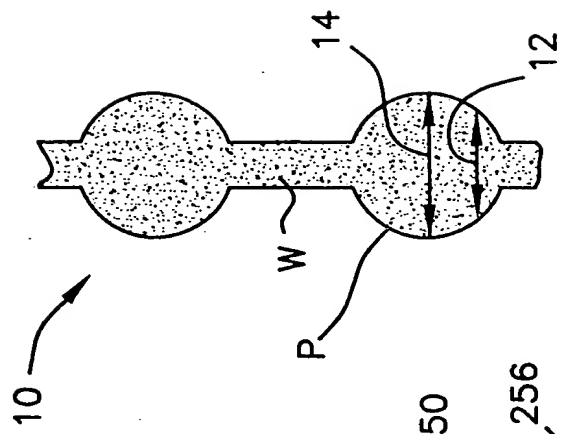


FIG. 5

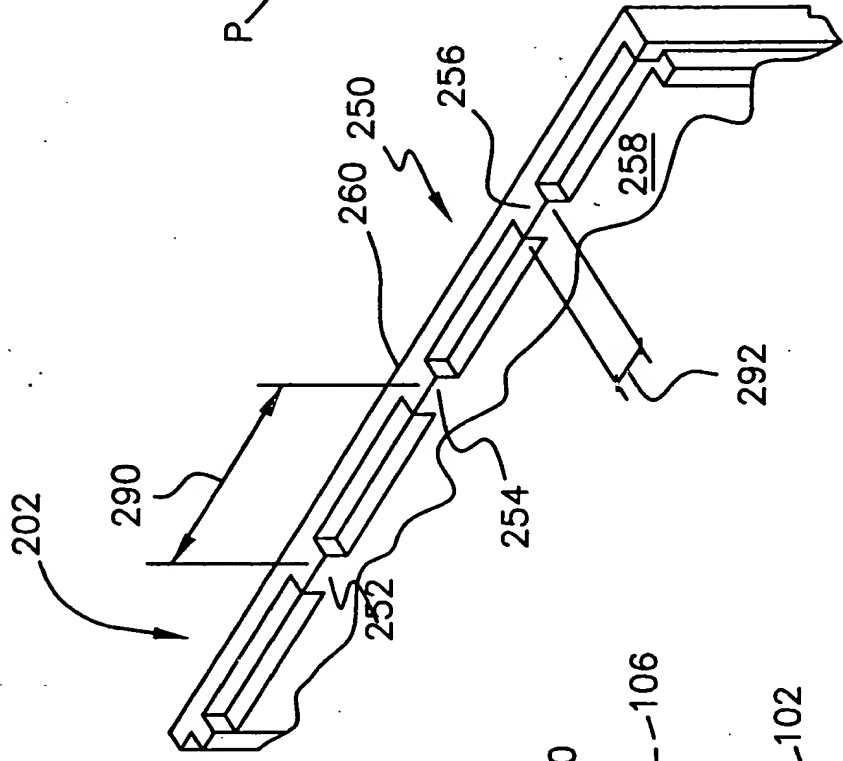
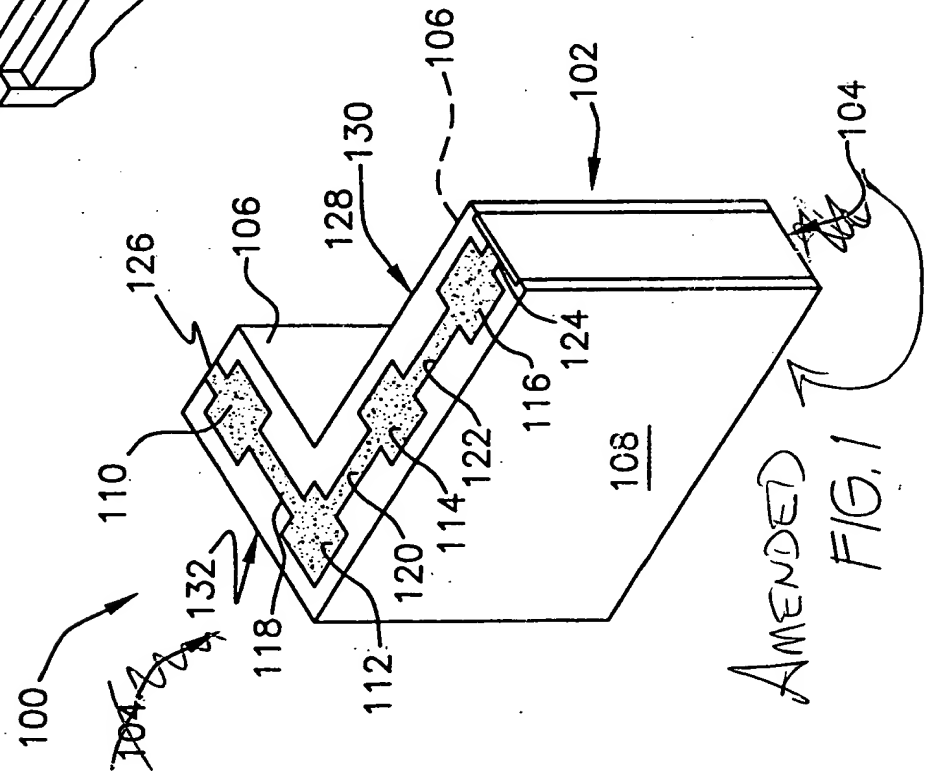


FIG. 6



AMENDED
 FIG. 1